

WHAT IS CLAIMED IS:

1. A method for independently adjusting six color classes with the consideration of boundary colors on a display device comprises steps of:
  - detecting a plurality of pixels of a display device and calculating a
  - 5 first tint and a second tint of said pixels;
  - defining a first pixel, said first tint and second tint of said first pixel both locating in said color class;
  - defining a second pixel, said second pixel being close to said first pixel, and said first tint and said second tint of said second pixel both
  - 10 locating in the neighboring of said color class;
  - defining a third pixel, said third pixel presenting a pixel being neither said first pixel nor said second pixel;
  - finding the first pixel and second pixel on said display device and adjusting their colors; and
  - 15 finding the third pixel on said display device and keeping its original color.
2. The method according to Claim 1 wherein said display device is a LCD or PDP or OLED.
3. The method according to Claim 1 wherein said first tint is Cb and said
- 20 second tint is Cr.
4. The method according to Claim 1 wherein said there are six independent color classes.
5. The method according to Claim 4 wherein said six independent color classes are red class, yellow class, green class, cyan class, blue class,
- 25 and magenta class.
6. The method according to Claim 5 wherein said each of the six independent color classes takes the area around 42 degrees in the two

dimensions of Cb, Cr, respectively, where the red class is between 81 to 124 degrees; the yellow class is between 146 to 188 degrees; the green class is between 220 to 262 degrees; the cyan class is between 262 to 304 degrees; the blue class is between 326 to 8 degrees; the magenta class is  
5 between 40 to 81 degrees.

7. The method according to Claim 6 wherein each of the six independent color classes can be subdivided into two sub color classes taking the area around 21 degrees in the two dimensions of Cb, Cr, respectively.

8. The method according to Claim 7 wherein said red class further has  
10 its own first sub-red (R1) class and second sub-red (R2) class; the yellow class further has its own first sub-yellow (Y1) class and second sub-yellow (Y2) class; the green class further has its own first sub-green (G1) class and second sub-green (G2) class; the cyan class further has its own first sub-cyan (C1) class and second sub-cyan (C2) class; the blue  
15 class further has its own first sub-blue (B1) class and second sub-blue (B2) class; the magenta class further has its own first sub-magenta (M1) class and second sub-magenta (M2) class. And, the sub-yellow-red (YR) is defined as between the first sub-yellow (Y1) and the second sub-red (R2); the sub-green-yellow (GY) is defined as between the first sub-  
20 green (G1) and the second sub-yellow (Y2); the sub-blue-cyan (BC) is defined as between the first sub-blue (B1) and the second sub-cyan (C2); the sub-magenta-blue (MB) is defined as between the first sub-magenta (M1) and the second sub-blue (B2).

9. The method according to Claim 8 wherein said neighboring colors of  
25 the red class are the sub-yellow-red (YR) class and the second sub-magenta (M2) class; the neighboring colors of the yellow class are the sub-green-yellow (GY) class and the sub-yellow-red (YR) class; the

neighboring colors of the green class are the first sub-cyan (C1) class and the sub-green-yellow (GY) class; the neighboring colors of the cyan class are the sub-blue-cyan (BC) class and the second sub-green (G2) class; the neighboring colors of the blue class are the sub-magenta-blue  
5 (MB) class and the sub-blue-cyan (BC) class; the neighboring colors of the magenta class are first sub-red (R1) class and the sub-magenta-blue (MB) class.